

METHODS AND SYSTEMS FOR IDENTIFYING NUCLEOTIDES BY PRIMER EXTENSION

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ABSTRACT

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The methods and systems for identifying nucleotides monitor changes in fluorescent signal that occur during the polymerase-mediated extension of dye labeled primer molecules. In certain aspects, the methods monitor changes in a fluorescent signal, e.g., relative polarization, emitted from a reaction mixture that contains a dye labeled primer that hybridizes to a target sequence such that the primer ends at the position of interest. Perfect hybridization at the position results in extension of the primer while imperfect hybridization, e.g., a mismatch at the position of interest results in no extension reaction. The occurrence of extension reaction is monitored by a change in the fluorescent signal of the mixture.